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ECONOMICS INFORMATION

REPORT NO. 89-01

A SURVEY OF CUSTOM FARMWORK RATES

CHARGED IN ONTARIO, 1988

by

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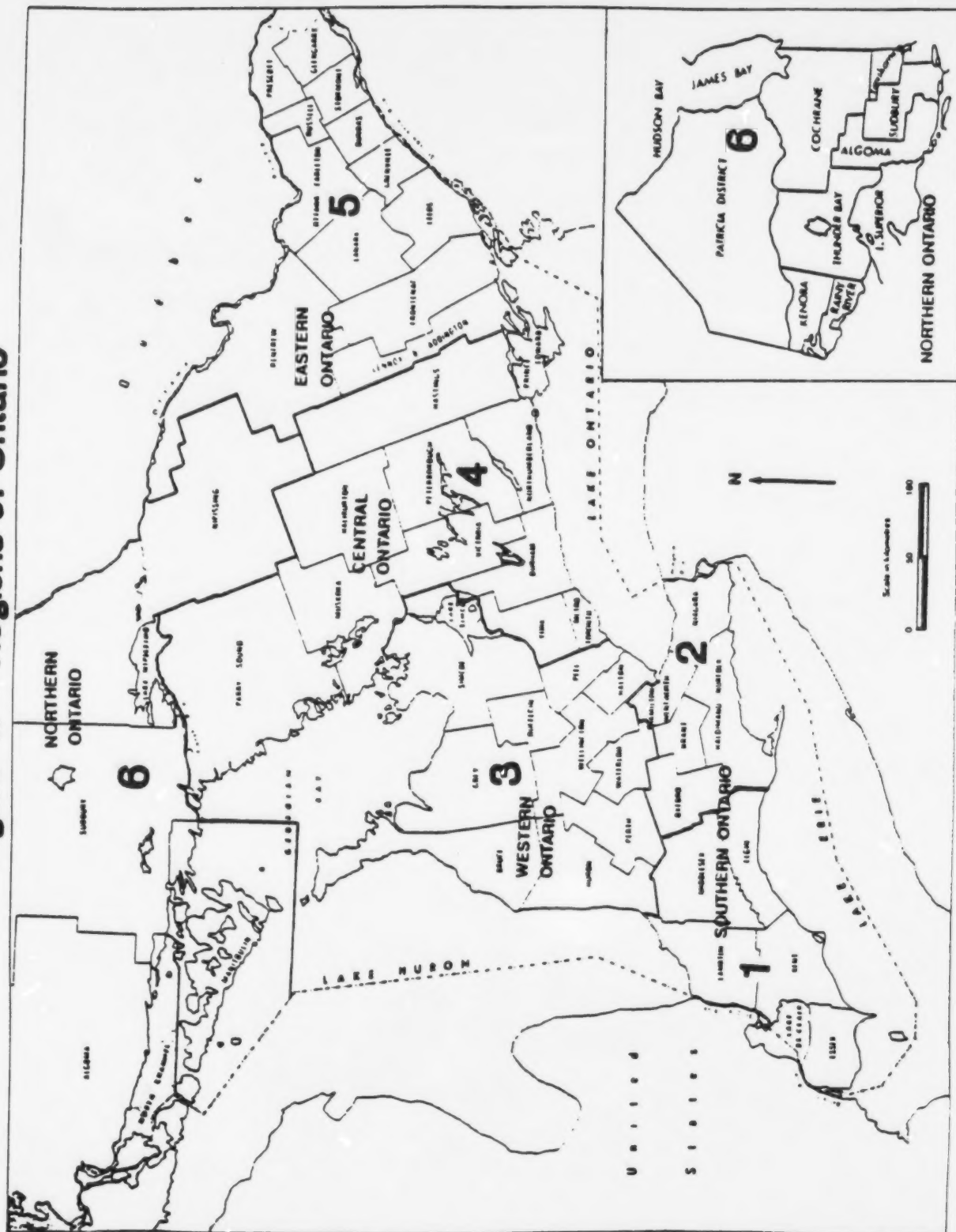
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Figure 1:-- Regions of Ontario



FOREWORD

A survey of custom farmwork rates, charged during 1988, was conducted by the Economics and Policy Coordination Branch of the Ontario Ministry of Agriculture and Food. Over 700 survey forms were forwarded to custom operators, of which over 500 were returned. Each custom operator volunteered information on the types of custom services provided, schedule of rates charged during 1988, and the equipment and labour provided. The results were analyzed and averages and ranges were calculated. These results provide an update to the 1987 survey "Custom Farmwork Rates Charged in Ontario". All information provided was treated confidentially.

The results of the 1988 survey are presented in Tables 1 through 11. For analysis purposes, the province has been divided into six areas. For each of the survey areas, the ranges of rates, the most frequently quoted rates, and the average rates are given for the most common operations performed.

Although the information in this report may be used as a guide by custom operators and farmers using custom services, **IT SHOULD NOT BE INTERPRETED AS RECOMMENDATIONS.**

The custom work survey rates are reported by areas which are defined as follows:

- Area 1 - Southern Ontario: Essex, Kent, Lambton, Middlesex, and Elgin counties.
- Area 2 - Southern Ontario: Oxford and Brant counties; and regional municipalities of Haldimand-Norfolk, Niagara, and Hamilton-Wentworth.
- Area 3 - Western Ontario: Huron, Perth, Bruce, Grey, Wellington, Dufferin, and Simcoe counties; and regional municipalities of Waterloo, Peel, and Halton.
- Area 4 - Central Ontario: Victoria, Northumberland, Peterborough, Hastings, and Prince Edward counties; and regional municipalities of York and Durham.
- Area 5 - Eastern Ontario: Lennox and Addington, Frontenac, Leeds, Lanark, Renfrew, Grenville, Dundas, Stormont, Russell, Prescott, and Glengarry counties; and the regional municipality of Ottawa-Carleton.
- Area 6 - Northern Ontario: Algoma, Cochrane North and South, Kenora, Manitoulin, Nipissing, Rainy River, and Timiskaming.

The authors are Barbara Burgess, Financial Analysis Clerk in the Chatham Office, and Fred Wind, Manager, Economic Information Services. Questions regarding the data may be directed to Mrs. Burgess at (519) 354-2150.

OBSERVATIONS AND COMMENTS ON CUSTOM FARMWORK SERVICES

As today's farmers continue to meet the challenge of changing cost-price relationships, good management and efficient farming operations are a requirement. The services offered by custom work operators therefore play an important role in Ontario's farming industry. With the trend toward increased mechanization, farmers are viewing specialized machinery as a way to reduce labour requirements and increase farm efficiency.

Many cannot economically afford to own and operate such equipment given the size of their operation. However, by utilizing custom farmwork services, farmers can obtain the benefit of these specialized machines without having to make the capital investment. The farmers are then free to use their own labour and capital for other purposes.

Custom rates should cover all costs, such as interest on investment, depreciation, repairs, maintenance, housing, insurance, grease, oil, fuel (where applicable), labour, and provide a profit for the operator. The supply and demand for custom work services in any area will usually be reflected in the custom rates charged. Low rates may reflect the willingness of some farmers or machinery owners to do additional work to help offset the ownership costs of the machinery. Good operating conditions such as large, level, obstruction-free fields and weed-free crops, which allow custom operators to work at normal or above normal speeds could also result in lower rates. High custom rates however, may indicate a shortage of operators willing to do custom work. Other factors which may contribute to high rates are poor weather conditions, awkward field shapes or sizes, and hard or stony soil conditions, which often cause above normal breakage and increased costs.

The data in this report indicate that custom rates can vary -- in some cases quite widely. Some custom operators expressed concern over the increasing costs of machinery, repairs and fuel, while others had concerns about the problems of adjusting their rates to meet increased costs at a time of changing farm prices.

Custom operators who know the operating costs for their machines, as well as the conditions they will encounter, can compare their own rates with the survey rate averages reported for their area. Other farmers who are considering the purchase of new equipment for custom work should review the rates charged in their area for various custom operations. In addition to rates charged, other factors in hiring custom work should be considered, such as the availability of custom operators in their area to do the required operation and the timeliness required to do the work. Rates are reported only for those custom operations for which there were a sufficient number of responses.

Most custom operators in Ontario perform their services without any type of written agreement. In some cases, disputes have occurred. Custom hiring is a business arrangement and the terms of the arrangement should be written into a formal agreement.

Some of the items to be considered in a formal contract are:

1. Operation(s) to be performed;
2. Timeliness of the operation;
3. Rate schedule to be used;

4. Managerial practices to be followed; and
5. Payment considerations.

Other items that could be included are: the responsibility in case of machine breakdown; the role of the farmer in assisting the custom operator; and arrangements to be made on notice of contract cancellation.

CUSTOM TILLAGE AND PLANTING

Custom charges for plowing, discing, and planting were reported on a per acre and/or per hour basis. In all areas, plowing rates varied with the conditions under which custom operators worked. These conditions included extra heavy soils, size of field, obstruction, time of plowing (such as spring or fall) and the kinds of crop residues handled such as cornstalks, established alfalfa or other types of cover.

Some custom operators made a distinction in the discing rate charged, depending on field obstructions, soil texture, shape of field, and whether harrows or a cultipacker were trailed behind the discs. Extra charges were usually made when added equipment was pulled behind a tandem disc or field cultivator. Soil saving methods of tillage and no-till planting increased slightly in Areas 1, 2, and 3.

If pre-emergent sprays or fertilizers or both were applied at planting time, custom operators usually added a charge for applying these materials. Rates charged for custom planting varied widely in some areas because operators included these additional charges. In most cases, farmers delivered the materials (seed, fertilizers, sprays, water) to the field.

Custom operators who charged by the hour for planting corn, beans, and small grains felt this method was fair to both the farmers and themselves. Farmers can speed up the planting operation if they help handle the fertilizer and seed. By using an hourly basis, custom operators can more easily calculate planting charges when fields are irregular and exact acreages unknown.

CUSTOM WEED CONTROL AND FERTILIZER APPLICATIONS

Some custom operators provided water supply tanks while others insisted that water be made available. In some areas, rates were reported for the application and immediate incorporation of pre-emergent sprays into the soil. The ready supply of water may have had a bearing on these rates.

In almost all cases, farmers supplied the materials for the weed spraying operations. To avoid misunderstanding, the rate and the material used should be clearly agreed upon by the farmer and the custom operator prior to the commencement of each spraying job.

In some areas rates were given for applying anhydrous fertilizers but not for other nitrogen fertilizers. Rates varied among and within areas depending on who supplied the applicator and delivered the anhydrous supply tanks to the farm.

CUSTOM HARVESTING SOYBEANS, SMALL GRAINS, AND CORN

Rates for combining varied because of crop lodging, weed growth, field conditions and other operating related elements. Custom operators, who normally charged by the acre, charged by the hour if they were hired to open fields or if muddy and/or other abnormal conditions prevailed.

Combining rates varied widely in some areas because custom operators supplied additional equipment such as wagons, elevators, and augers. Custom corn picking rates were not obtained in all survey areas and again these rates varied, depending on the equipment supplied.

Custom operators in some areas quoted hourly rates for combining because of the difference in combine sizes, and the range in the rates obtained was quite wide. Understandably, four-row and six-row combines harvest more acres per hour than two two-row combines. See Appendix Table 1 for guidance regarding rates per hour for different combine sizes.

Trucking rates for grains seemed to vary. Rates per bushel were lower when farm loading facilities were convenient and when handling was during non-harvest or less busy periods. On the other hand, during the harvest rush truckers charged their standard rates while others charged more to compensate for slow loading and delivery. The distance travelled to the local elevator was also a factor in the rates charged for trucking.

Rates for drying varied among those custom operators supplying this service, because of the different drying systems and methods of charging. Therefore, custom drying charges were not reported because of the varied methods of charging for this specialized service (per tonne, bushel, hour).

The majority of custom drying operations are now using the drying charges as established by the Ontario Grain and Feed Dealers Association. These tables are in metric measure and show the number of kilograms of wet corn and soybeans required to yield the number of dry tonnes. Copies of these tables are shown in Appendix Tables 2 and 3 of this report. The elevator charges for drying corn and soybeans using natural gas at different moisture levels, are provided in the tables. The drying charges can be used as a guide in establishing custom rates for farm drying operations. These elevator drying charges do not include costs for handling grains; therefore an added cost per unit should be considered to cover these handling charges.

CUSTOM SILO FILLING

Rates for silo filling of corn were most commonly reported on an hourly basis with some operators charging according to silo diameter and height. Yields are difficult to determine without weigh scales. Since there were insufficient replies from operators charging by the ton, by silo diameter or by the acre, only hourly charges are shown in this report.

Custom operators prefer to charge by the hour because it is fairer to all concerned. They can go faster with a light crop and therefore charge less than a standard per acre rate. If they have to travel a long distance from field to silo, the cost will be adjusted accordingly. It is also much easier to establish a total cost, especially when a bunker silo has been filled.

Rates for filling varied, depending on the combinations used; number of persons, number and size of tractors, size and type of harvester, number and type of forage wagons, and blower with or without a recutter attachment. Two groups of silo filling equipment was common to all areas of Ontario. One group consisted of two tractors, two-row P.T.O. harvester, blower, wagons, and two people. The other group consisted of one to three tractors, self-propelled harvester, blower, wagons, and one to three persons.

Depending on circumstances encountered, combinations varied within each grouping. For example, the number of persons supplied to power the equipment varied according to conditions and area. Therefore, for each group in each area, a wide range in charges per hour occurred. Tractors with higher horsepower, for example, are able to move more tonnage into the silo per hour than tractors with lower horsepower.

The custom silo filler may make some adjustments to the charges by allowing a rate per hour for each additional person supplied as well as for each tractor supplied in addition to the usual silo filling equipment.

Silage bagging was provided by custom operators in Areas 3 and 5 with 8' x 100' and 150' bags being utilized. Rates charged ranged from \$500 to \$1,000 with no consistent pattern visible.

CUSTOM HAY HARVESTING

In all areas, swathing consisted of cutting and conditioning hay in one operation. Custom rates for conventional baling included the twine and varied within each survey area, depending on the extra equipment supplied. Custom operators usually charged more per bale with a bale stooker or wagon pulled behind the baler.

The custom silo filling of haylage, unless unusual conditions occurred, would be the same as for custom silo filling of corn in most areas.

Table 1.--Rates for Custom Tillage, Planting, Weed Control, and Fertilizer Applications, Area 1, Southern Ontario, 1988

Operation	Number Reporting	Average	Most Frequent	Range
- dollars per acre -				
Tillage^a				
Plowing:				
Chisel	6	13.08	12.00	10.00 - 18.50
Moldboard	44	15.30	15.00	10.00 - 20.00
Discing	26	7.52	6.00	5.00 - 12.00
Cultivating	27	7.50	8.00	5.00 - 12.00
Soil saver	7	13.84	12.00	12.00 - 18.35
Planting				
Corn	25	10.18	10.00	7.00 - 15.00
Soybeans	18	9.58	9.00	6.50 - 15.00
Small grains	14	8.03	8.00	5.00 - 10.00
Weed Control^b				
Spraying	20	6.23	6.00	4.50 - 10.00
Incorporating ^c	10	10.10	10.00	8.00 - 15.00
Row cultivating	14	6.00	6.00	5.00 - 8.00
Rotary hoeing	6	5.25	5.00	4.50 - 7.00
Fertilizing				
Anhydrous	6	8.17	8.00	7.00 - 10.00

^a Per hour rates for tillage operations of plowing, discing and cultivating differ according to the size of tractor and equipment used to perform the operation.

^b Spraying and incorporating does not include cost of any materials.

^c Incorporating includes the application of spray materials and working these materials into the ground.

**Table 2.--Rates for Custom Harvesting Operations,
Area 1, Southern Ontario, 1988**

Operation	Number Reporting	Average	Most Frequent	Range
- dollars -				
Harvesting Corn				
Picking: per acre				
Commercial corn	5	30.20	30.00	20.00 - 39.00
Seed corn ^a	4	40.50	40.00	40.00 - 42.00
Combining: per acre	63	30.28	30.00	25.00 - 36.00
Trucking: per bushel	21	.14	.14	.08 - .20
per tonne	9	5.28	5.00	4.00 - 8.00
Harvesting Small Grains and Soybeans				
Small grains:				
Swathing	3	10.33	8.00	8.00 - 15.00
Combining wheat	43	26.15	28.00	20.00 - 32.00
Combining other small grains	25	24.86	25.00	20.00 - 36.00
Combining soybeans	73	28.30	28.00	22.00 - 36.00
white beans	3	30.00	--	25.00 - 35.00
Forage Operations				
Hay:				
Swathing, per acre	12	11.17	10.00	10.00 - 18.00
Baling, per bale:				
Small rectangular	14	.36	.35	.30 - .50
Large round	7	7.26	6.00	6.00 - 9.10
Silo filling ^b , per hour:				
Group 1	7	110.71	100.00	90.00 -150.00
Group 2	5	134.00	125.00	125.00 -150.00
Snow Removal				
Blade, per hour	3	73.33	85.00	50.00 - 85.00

^a Most operators supply a dump wagon with the picker.

^b The following combinations were used:

Group 1: 1 or 2 tractors, 2-row PTO harvester, blower, wagons, and 2 persons.

Group 2: 1 to 3 tractors, SP 2- to 4-row harvester, blower, wagons, and 1 to 3 persons.

Note: Adjustments can be made in silo filling operations by allowing a rate per hour for each additional person and tractor supplied.

Table 3.--Rates for Custom Tillage, Planting, Weed Control, and Fertilizer Applications, Area 2, Southern Ontario, 1988

Operation	Number Reporting	Average	Most Frequent	Range
- dollars per acre -				
Tillage^a				
Plowing:				
Moldboard	46	15.54	15.00	10.00 - 22.00
Chisel	5	14.80	14.00	12.00 - 18.00
Discing	35	8.78	8.00	6.00 - 14.00
Cultivating	25	8.16	8.00	6.00 - 12.00
Soil saver	18	12.83	12.00	10.00 - 16.00
Planting				
Corn	46	10.13	10.00	7.00 - 14.00
Soybeans	22	10.34	10.00	7.50 - 13.00
Small grains	22	9.45	10.00	6.00 - 12.00
Weed Control^b				
Spraying	32	6.02	6.00	4.50 - 8.00
Incorporating ^c	18	11.86	12.00	8.00 - 17.00
Fertilizing				
Anhydrous	4	7.38	7.00	7.00 - 8.50

^a Per hour rates for the tillage operations of plowing, discing and cultivating differ according to the size of tractor and equipment used to perform the operation.

^b Spraying and incorporating does not include any materials.

^c Incorporating included the application of spray materials and working these materials into the ground.

Table 4.--Rates for Custom Harvesting Operations, Area 2, Southern Ontario, 1988

Operation	Number Reporting	Average	Most Frequent	Range
- dollars -				
Harvesting Corn				
Combining: per acre	62	31.34	30.00	25.00 - 40.00
per hour	7	99.57	95.00	75.00 -130.00
Trucking: per bushel	8	.17	--	.14 - .25
per tonne	19	5.89	6.00	5.00 - 8.00
Harvesting Small Grains and Soybeans				
Combining:				
Wheat, per acre	24	23.75	25.00	20.00 - 29.00
per hour	3	106.67	--	90.00 -120.00
Other small grains, per acre	39	23.90	22.00	20.00 - 32.00
per hour	10	102.10	90.00	66.00 -135.00
Soybeans, per acre	38	32.03	32.00	25.00 - 36.00
per hour	4	106.75	--	82.00 -130.00
Forage Operations				
Hay:				
Swathing, per acre	13	11.19	10.00	9.00 - 15.00
per hour	4	36.75	--	30.00 - 42.00
Baling:				
Small rectangular per bale	16	.39	.35	.30 - .60
Large round	6	5.83	6.00	4.50 - 7.00
Silo filling ^a , per hour				
Group 1	14	116.07	--	75.00 -200.00
Group 2	7	139.29	--	100.00 -175.00
Snow Removal				
Blower, per hour	8	67.50	60.00	40.00 -130.00

^a The following combinations were used:

Group 1: 1 or 2 tractors, 2-row PTO harvester, blower, wagons, and 2 persons.

Group 2: 1 to 3 tractors, SP 2- or 3-row harvester, blower, wagons, and 1 to 3 persons.

Note: Adjustments can be made in silo filling operations by allowing a rate per hour for each additional person and tractor supplied.

**Table 5.--Rates for Custom Tillage, Planting, Weed Control,
Fertilizer Applications, Area 3, Western Ontario, 1988**

Operation	Number Reporting	Average	Most Frequent	Range
- dollars -				
Tillage^a				
Plowing:				
Moldboard, per acre	69	14.28	15.00	10.00 - 18.00
per hour	4	48.75	50.00	40.00 - 55.00
Chisel, per acre	3	9.17	--	8.50 - 12.00
Discing, per acre	32	8.28	8.00	5.00 - 15.00
Cultivating, per acre	46	7.16	6.00	5.00 - 11.00
Soil saver, per acre	8	12.38	--	10.00 - 15.00
- dollars per acre -				
Planting				
Corn	76	9.77	10.00	6.00 - 14.00
Soybeans	19	9.79	10.00	8.00 - 14.00
Small Grains	46	8.98	10.00	6.00 - 12.00
Weed Control^b				
Spraying	50	5.24	5.00	3.00 - 8.00
Incorporating ^c	8	11.38	10.00	10.00 - 14.00
Fertilizing				
Anhydrous	3	7.50	--	6.50 - 9.00
Dry fertilizer	4	4.75	5.00	4.00 - 5.00

^a Per hour rates for tillage operations of plowing, discing and cultivating differ according to the size of tractor and equipment used to perform the operations.

^b Spraying and incorporating does not include any materials.

^c Incorporating included the application of spray materials and working these materials into the ground.

**Table 6.--Rates for Custom Harvesting Operations
Area 3, Western Ontario, 1988**

Operation	Number Reporting	Average	Most Frequent	Range
Harvesting Corn				
Combining: per acre	96	31.27	- dollars - 30.00	22.00 - 40.00
per hour	15	125.00	--	100.00 -250.00
Trucking: per tonne	22	5.45	5.00	3.00 - 8.00
per bushel	3	.13	.12	.12 - .15
Harvesting Small Grains, Soybeans and Canola				
Combining:				
Small grains, per acre	90	24.63	25.00	16.00 - 35.00
per hour	16	106.56	100.00	90.00 -150.00
Swathed grains,				
per acre	6	23.33	--	20.00 - 25.00
Wheat, per acre	25	25.82	25.00	21.00 - 32.00
per hour	5	115.00	100.00	100.00 -150.00
Soybeans, per acre	68	29.62	30.00	22.00 - 36.00
per hour	10	110.50	100.00	100.00 -140.00
Swathing:				
Small grains, per acre	30	8.90	8.00	7.00 - 12.00
per hour	4	43.50	45.00	36.00 - 48.00
Canola, per acre	5	10.70	10.00	10.00 - 12.00
Harvesting White Beans, per acre				
Pulling & windrowing	4	15.25	13.00	13.00 - 20.00
Combining, windrows	11	28.18	28.00	22.00 - 40.00
straight	10	33.65	35.00	30.00 - 40.00
Forage Operations				
Swathing hay, per acre	38	10.93	10.00	8.00 - 14.00
per hour	8	41.13	40.00	30.00 - 55.00
Baling hay, per bale				
Small rectangular	26	.38	.40	.25 - .50
Large round	34	5.92	5.50	4.00 - 8.00
Silo filling ^a , per hour				
Group 1	26	97.04	110.00	50.00 -155.00
Group 2	10	130.50	--	95.00 -200.00
Snow Removal				
Blower, per hour	25	48.60	40.00	30.00 - 70.00

^a The following combinations were used:

Group 1: 1 or 2 tractors, 2-row PTO harvester, blower, wagons, and 2 persons.

Group 2: 1 to 3 tractors, SP 2- or 3-row harvester, blower, wagons, and 1 to 3 persons.

Note: Adjustments can be made in silo filling operations by allowing a rate per hour for each additional person and tractor supplied.

**Table 7.--Rates for Custom Tillage, Planting, Weed Control,
Fertilizer Applications, Area 4, Central Ontario, 1988**

Operation	Number Reporting	Average	Most Frequent	Range
- dollars -				
Tillage^a				
Plowing:				
Moldboard, per acre	24	16.00	15.00	14.00 - 20.00
per hour	12	45.00	--	20.00 - 85.00
Chisel, per acre	5	12.00	12.00	8.00 - 15.00
Discing: per acre	13	8.69	8.00	6.50 - 14.00
per hour	4	52.50	50.00	25.00 - 85.00
Cultivating: per acre	17	7.38	8.00	6.00 - 10.00
per hour	6	47.50	--	30.00 - 85.00
- dollars per acre -				
Planting				
Corn	27	9.78	10.00	8.00 - 14.00
Soybeans	13	10.31	10.00	8.00 - 14.00
Small grains	22	9.23	10.00	5.00 - 12.00
Weed Control^b				
Spraying	22	5.61	5.00	4.00 - 8.00
Incorporating ^c	4	11.00	--	9.00 - 14.00
Fertilizing				
Dry Fertilizer	4	4.25	4.00	4.00 - 5.00

^a Per hour rates for tillage operations of plowing, discing and cultivating differ according to the size of tractor and equipment used to perform the operations.

^b Spraying and incorporating does not include any materials.

^c Incorporating included the application of spray materials and working these materials into the ground.

Table 8.--Rates for Custom Harvesting Operations, Area 4, Central Ontario, 1988

Operation		Number Reporting	Average	Most Frequent	Range
Harvesting Corn			- dollars -		
Combining:					
	per acre	26	30.65	30.00	20.00 - 36.00
	per hour	9	106.67	100.00	80.00 -190.00
Trucking,	per tonne	15	6.70	6.00	5.00 - 9.00
Harvesting Small Grains					
Combining:					
Grains,	per acre	26	25.67	25.00	20.00 - 30.00
	per hour	14	96.25	--	50.00 -150.00
Soybeans,	per acre	20	30.13	30.00	20.00 - 32.50
	per hour	5	118.00	100.00	95.00 -175.00
Swathing:					
Small grains,	per acre	6	9.42	--	8.00 - 12.00
Forage Operations					
Swathing hay,	per acre	17	12.12	12.00	10.00 - 16.00
	per hour	6	50.67	35.00	35.00 - 85.00
Baling hay,	per bale				
Small rectangular		13	.42	.35	.30 - .60
Large round		26	5.98	6.00	4.00 - 10.00
Silo filling ^a ,	per hour				
Group 1		16	84.06	--	55.00 -120.00
Group 2		8	133.50	--	88.00 -225.00
Snow Removal					
Blower,	per hour	8	48.13	--	30.00 - 60.00
Blade,	per hour	3	31.00	--	18.00 - 40.00

^a The following combinations were used:

Group 1: 1 or 2 tractors, 2-row PTO harvester, blower, wagons, and 2 persons.

Group 2: 1 to 3 tractors, SP 2- or 3-row harvester, blower, wagons, and 1 to 3 persons.

Note: Adjustments can be made in silo filling operations by allowing a rate per hour for each additional person and tractor supplied.

**Table 9.--Rates for Custom Tillage, Planting, Weed Control,
Fertilizer Applications, Area 5, Eastern Ontario, 1988**

Operation		Number Reporting	Average	Most Frequent	Range
- dollars -					
Tillage^a					
Plowing:					
Moldboard,	per acre	16	16.44	15.00	15.00 - 24.00
	per hour	16	60.00	60.00	25.00 - 110.00
Discing:					
	per acre	11	9.05	--	7.00 - 15.00
	per hour	9	66.67	--	40.00 - 110.00
Cultivating:					
	per acre	9	7.89	8.00	7.00 - 9.50
	per hour	6	61.67	--	50.00 - 80.00
Planting					
Corn:					
	per acre	17	10.25	10.00	5.00 - 13.25
	per hour	3	51.67	--	30.00 - 70.00
Small grains: per acre					
		6	8.58	10.00	6.00 - 10.50
Weed Control^b					
Spraying: per acre					
		17	6.06	5.00	5.00 - 8.50

^a Per hour rates for the tillage operations of plowing, discing, and cultivating differ according to the size of tractor and equipment used to perform the operations.

^b Spraying does not include any materials.

Table 10.--Rates for Custom Harvesting Operations, Area 5, Eastern Ontario, 1988

Operation		Number Reporting	Average	Most Frequent	Range
- dollars -					
Harvesting Corn					
Picking:	per hour	4	56.75	50.00	50.00 - 65.00
Combining:	per acre	15	32.43	30.00	24.00 - 50.00
	per hour	29	106.03	100.00	70.00 - 160.00
Trucking:	per tonne	8	5.69	6.00	4.00 - 7.00
Harvesting Small Grains and Soybeans					
Combining:					
Small grains,	per acre	18	29.72	30.00	22.00 - 50.00
	per hour	31	83.39	--	40.00 - 110.00
Soybeans,	per acre	8	33.88	30.00	30.00 - 50.00
	per hour	10	93.00	100.00	65.00 - 105.00
Swathing:					
Small grains,	per acre	3	8.33	10.00	5.00 - 10.00
Forage Operations					
Swathing hay:	per acre	5	9.60	10.00	8.00 - 11.00
	per hour	6	46.17	--	35.00 - 65.00
Baling hay, per bale:					
Small rectangular		5	.38	.40	.30 - .40
Large round		22	6.23	5.00	3.50 - 10.00
Silo filling ^a , per hour					
Group 1		18	101.42	110.00	45.00 - 150.00
Group 2		11	133.64	--	100.00 - 190.00
Snow Removal					
Blower,	per hour	12	46.25	40.00	25.00 - 60.00
Blade,	per hour	3	40.00	40.00	40.00 - 40.00

^a The following combinations were used:

Group 1: 1 or 2 tractors, 2-row PTO harvester, blower, wagons, and 2 persons.

Group 2: 1 to 3 tractors, SP 2- or 3-row harvester, blower, wagons, and 1 to 3 persons.

Note: Adjustments can be made in silo filling operations by allowing a rate per hour for each additional person and tractor supplied.

Table 11.--Rates for Custom Farmwork Operations, Area 6, Northern Ontario, 1988

Operation		Number Reporting	Average	Most Frequent	Range
- dollars -					
Tillage^a					
Plowing,	per hour	6	35.00	35.00	25.00 - 45.00
Discing,	per hour	4	46.25	40.00	40.00 - 60.00
Weed Control^b					
Spraying,	per acre	5	5.20	5.00	5.00 - 6.00
Harvesting Small Grains and Canola					
Swathing:					
Small grains,	per hour	6	32.50	--	30.00 - 35.00
Canola,	per hour	4	31.75	30.00	30.00 - 35.00
Combining:					
Small grains,	per hour	20	77.90	--	45.00 - 125.00
Canola,	per hour	9	71.67	70.00	45.00 - 100.00
Forage Operations					
Swathing hay:	per hour	13	36.54	--	25.00 - 50.00
Baling:					
Large round	per bale	19	5.04	5.00	3.00 - 7.50

^a Per hour rates for the tillage operations of plowing, discing, and cultivating differ according to the size of tractor and equipment used to perform the operations.

^b Spraying does not include any materials.

Appendix Table 1.--Rates of Accomplishing Farm Operations in Ontario, 1988

Operation	Number Reporting	Average	Most Frequent	Range
- acres per hour -				
Tillage				
Plowing:				
60- 85 HP	10	2.3	2.0	1.5 - 2.5
86-115 HP	13	3.4	3.0	2.5 - 4.0
116-135 HP	9	3.9	4.0	3.0 - 5.0
136-160 HP	13	4.6	5.0	3.0 - 6.0
161-200 HP	3	6.8	6.5	6.5 - 7.5
Discing:				
60- 85 HP	6	5.3	5.0	3.5 - 8.0
86-115 HP	5	9.5	10.0	7.5 - 11.0
136-160 HP	6	10.0	11.0	7.0 - 14.0
Incorporating, 80-100 HP . . .	5	6.7	7.0	4.0 - 9.0
Planting				
Corn:				
4-row	49	3.9	4.0	2.5 - 5.0
6-row	8	6.7	6.0	4.5 - 9.0
8-row	6	7.6	8.0	5.5 - 9.0
Small grains, 15- to 17-run	5	4.2	4.5	3.0 - 5.0
Summer Operations				
Spraying:				
Tractor & sprayer	28	7.8	7.0	5.0 - 12.0
SP sprayer	8	16.9	20.0	10.0 - 25.0
Row cultivate	3	8.3	8.0	7.0 - 10.0
Anhydrous application:				
100 HP	4	5.0	5.0	4.0
150 HP	3	8.7	8.0	8.0 - 10.0
Harvesting Small Grains				
Swathing:				
10 ft.	9	3.0	3.0	2.0 - 4.0
12 ft.	5	3.6	3.5	3.0 - 5.0
Combining:				
10 ft.	10	2.7	2.5	2.0 - 3.0
11 ft.	4	2.8	2.5	2.0 - 4.0
12 ft.	6	3.6	4.0	2.0 - 5.0
13 ft.	21	4.0	4.0	2.5 - 9.0
14 ft.	11	5.1	4.5	3.0 - 10.0
15 ft. to 18 ft.	8	5.6	6.0	3.0 - 10.0

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Appendix Table 1.--Rates of Accomplishing Farm Operations in Ontario, 1988
(concluded)

Operation	Number Reporting	Average	Most Frequent	Range
- acres per hour -				
Harvesting Corn and Beans				
Combine corn:				
2-row	4	2.0	1.5	1.5 - 3.0
4-row	44	3.2	3.5	2.5 - 5.0
6-row	11	4.3	4.0	3.0 - 7.0
Corn picking:				
1-row	3	1.0	1.0	1.0 - 1.25
2-row	6	1.7	2.0	1.0 - 2.0
3-row	2	3.0	3.0	3.0
Combine soybeans:				
13 ft. & under	11	3.6	4.0	3.0 - 4.0
14 ft. & over	5	4.6	5.0	3.0 - 6.0
Drying, batch dried:				
Bushels per hour	3	115.0	115.0	100.0 -125.0
Harvesting Forages				
Swathing hay:				
Swather, 10 ft.	9	3.1	3.0	2.0 - 4.0
Swather, 12 ft.	5	3.6	4.0	3.0 - 5.0
Haybine, 9 ft.	4	2.8	3.0	2.0 - 4.0
Silo filling: ^a				
Group 1	3	1.5	1.5	1.0 - 2.0
Group 2	19	2.1	2.0	1.5 - 4.0
Group 3	7	2.2	2.0	1.5 - 3.0
Group 4	4	3.1	3.0	2.0 - 4.0
Group 5	3	4.2	4.0	4.0 - 4.5
Baling, dropped on ground:				
Bales per hour				
(small rectangular)	3	250.0	250.0	225.0 -275.0

Note: Information based on survey conducted in Ontario in 1974.

^a The width of the cutting bar was used to rate the combines, although it is realized that the size of the cleaning and the separation area are also important in rating the capacity of combines.

The following combinations were used:

- Group 1: tractor drawn, 1-row harvester with wagons.
- Group 2: tractor drawn, 2-row harvester with wagons.
- Group 3: self-propelled, 2-row harvester with wagons.
- Group 4: self-propelled, 3-row harvester with wagons.
- Group 5: self-propelled or tractor drawn harvesters with trucks.

**Appendix Table 2.--Corn Conversion Table - Wet Kilograms to Dry Tonnes
Using Natural Gas, 1988**

Moisture	Wet Corn (Divisor)	Drying Charge ^a	Moisture	Wet Corn (Divisor)	Drying Charge ^a	Moisture	Wet Corn (Divisor)	Drying Charge ^a
%	kg	\$	%	kg	\$	%	kg	\$
15.5	1000.0	--						
15.6	1011.3	4.00	19.6	1061.6	8.57	23.6	1117.2	10.79
15.7	1012.5	4.19	19.7	1062.9	8.62	23.7	1118.7	10.85
15.8	1013.7	4.39	19.8	1064.3	8.67	23.8	1120.1	10.90
15.9	1014.9	4.58	19.9	1065.6	8.73	23.9	1121.6	10.92
16.0	1016.1	4.78	20.0	1066.9	8.96	24.0	1123.1	10.95
16.1	1017.3	4.97	20.1	1068.3	9.03	24.1	1124.6	10.98
16.2	1018.5	5.16	20.2	1069.6	9.08	24.2	1126.0	11.00
16.3	1019.8	5.36	20.3	1070.5	9.14	24.3	1127.5	11.07
16.4	1021.0	5.54	20.4	1072.3	9.21	24.4	1129.0	11.14
16.5	1022.2	5.73	20.5	1073.6	9.26	24.5	1130.5	11.22
16.6	1023.4	5.91	20.6	1075.0	9.31	24.6	1132.0	11.28
16.7	1024.7	6.09	20.7	1076.3	9.36	24.7	1133.5	11.33
16.8	1025.9	6.28	20.8	1077.7	9.41	24.8	1135.0	11.38
16.9	1027.1	6.47	20.9	1079.1	9.46	24.9	1136.5	11.43
17.0	1028.4	6.66	21.0	1080.4	9.51	25.0	1138.0	11.48
17.1	1029.6	6.86	21.1	1081.8	9.56	25.1	1139.6	11.53
17.2	1030.8	7.05	21.2	1083.2	9.61	25.2	1141.1	11.59
17.3	1032.1	7.25	21.3	1084.5	9.65	25.3	1142.6	11.65
17.4	1033.3	7.34	21.4	1085.9	9.70	25.4	1144.1	11.71
17.5	1034.6	7.43	21.5	1087.3	9.75	25.5	1145.7	11.76
17.6	1035.8	7.52	21.6	1088.7	9.80	25.6	1147.2	11.80
17.7	1037.1	7.61	21.7	1090.1	9.84	25.7	1148.8	11.84
17.8	1038.4	7.71	21.8	1091.5	9.89	25.8	1150.3	11.88
17.9	1039.6	7.75	21.9	1092.9	9.94	25.9	1151.9	11.92
18.0	1040.9	7.79	22.0	1094.3	9.99	26.0	1153.4	11.96
18.1	1042.2	7.83	22.1	1095.7	10.04	26.1	1155.0	12.00
18.2	1043.4	7.87	22.2	1097.1	10.09	26.2	1156.6	12.04
18.3	1044.7	7.91	22.3	1098.5	10.14	26.3	1158.1	12.08
18.4	1046.0	7.96	22.4	1099.9	10.19	26.4	1159.7	12.12
18.5	1047.3	8.01	22.5	1101.3	10.23	26.5	1161.3	12.18
18.6	1048.6	8.06	22.6	1102.8	10.27	26.6	1162.9	12.24
18.7	1049.9	8.11	22.7	1104.2	10.31	26.7	1164.4	12.30
18.8	1051.2	8.16	22.8	1105.6	10.36	26.8	1166.0	12.36
18.9	1052.4	8.22	22.9	1107.0	10.41	26.9	1167.6	12.42
19.0	1053.7	8.27	23.0	1108.5	10.46	27.0	1169.2	12.48
19.1	1055.0	8.32	23.1	1109.9	10.52	27.1	1170.8	12.54
19.2	1056.4	8.37	23.2	1111.4	10.57	27.2	1172.4	12.60
19.3	1057.7	8.42	23.3	1112.8	10.62	27.3	1174.1	12.67
19.4	1059.0	8.47	23.4	1114.3	10.67	27.4	1175.7	12.73
19.5	1060.3	8.52	23.5	1115.7	10.73	27.5	1177.3	12.79

This chart shows the number of kilograms of wet corn, at varying degrees of moisture, that are required to yield a dry tonne, including allowance of 1 percent invisible loss. Charges for drying are assessed per tonne of dry corn.

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**Appendix Table 2---Corn Conversion Table - Wet Kilograms to Dry Tonnes
Using Natural Gas, 1988 (concluded)**

Moisture	Wet Corn (Divisor)	Drying Charge ^a	Moisture	Wet Corn (Divisor)	Drying Charge ^a	Moisture	Wet Corn (Divisor)	Drying Charge ^a
%	kg	\$	%	kg	\$	%	kg	\$
27.6	1178.9	12.84	32.1	1257.0	14.92	36.6	1346.3	17.66
27.7	1180.5	12.89	32.2	1258.9	14.95	36.7	1348.4	17.84
27.8	1182.2	12.94	32.3	1260.8	14.98	36.8	1350.5	18.02
27.9	1183.8	12.99	32.4	1262.6	15.01	36.9	1352.7	18.20
28.0	1185.5	13.03	32.5	1264.5	15.03	37.0	1354.8	18.37
28.1	1187.1	13.06	32.6	1266.4	15.07	37.1	1357.0	18.54
28.2	1188.8	13.08	32.7	1268.3	15.11	37.2	1359.1	18.72
28.3	1190.4	13.10	32.8	1270.1	15.16	37.3	1361.3	18.89
28.4	1192.1	13.12	32.9	1272.0	15.20	37.4	1363.5	19.06
28.5	1193.8	13.19	33.0	1273.9	15.24	37.5	1365.7	19.25
28.6	1195.4	13.24	33.1	1275.8	15.28	37.6	1367.8	19.43
28.7	1197.1	13.29	33.2	1277.7	15.32	37.7	1370.0	19.61
28.8	1198.8	13.36	33.3	1279.7	15.36	37.8	1372.2	19.80
28.9	1200.5	13.43	33.4	1281.6	15.41	37.9	1374.5	19.98
29.0	1202.2	13.50	33.5	1283.5	15.47	38.0	1376.7	20.17
29.1	1203.9	13.56	33.6	1285.4	15.53	38.1	1378.9	20.34
29.2	1205.6	13.63	33.7	1287.4	15.57	38.2	1381.1	20.51
29.3	1207.3	13.71	33.8	1289.3	15.62	38.3	1383.4	20.68
29.4	1209.0	13.78	33.9	1291.3	15.68	38.4	1385.6	20.84
29.5	1210.7	13.85	34.0	1293.2	15.73	38.5	1387.9	21.00
29.6	1212.4	13.90	34.1	1295.2	15.78	38.6	1390.1	21.19
29.7	1214.1	13.94	34.2	1297.2	15.83	38.7	1392.4	21.37
29.8	1215.9	14.01	34.3	1299.1	15.87	38.8	1394.7	21.55
29.9	1217.6	14.07	34.4	1301.1	15.91	38.9	1396.9	21.74
30.0	1219.3	14.12	34.5	1303.1	15.95	39.0	1399.2	21.91
30.1	1221.1	14.18	34.6	1305.1	15.99	39.1	1401.5	22.08
30.2	1222.8	14.22	34.7	1307.1	16.03	39.2	1403.8	22.26
30.3	1224.6	14.26	34.8	1309.1	16.06	39.3	1406.2	22.44
30.4	1226.3	14.30	34.9	1311.1	16.11	39.4	1408.5	22.67
30.5	1228.1	14.34	35.0	1313.1	16.17	39.5	1410.8	22.89
30.6	1229.9	14.37	35.1	1315.2	16.23	39.6	1413.1	22.99
30.7	1231.7	14.40	35.2	1317.2	16.29	39.7	1415.5	23.11
30.8	1233.4	14.43	35.3	1319.2	16.34	39.8	1417.8	23.31
30.9	1235.2	14.46	35.4	1321.3	16.39	39.9	1420.2	23.54
31.0	1237.0	14.50	35.5	1323.3	16.45	40.0	1422.6	23.77
31.1	1238.8	14.54	35.6	1325.4	16.51	40.1	1424.9	23.99
31.2	1240.6	14.58	35.7	1327.4	16.57	40.2	1427.3	24.22
31.3	1242.4	14.62	35.8	1329.5	16.62	40.3	1429.7	24.44
31.4	1244.2	14.66	35.9	1331.6	16.68	40.4	1432.1	24.67
31.5	1246.0	14.69	36.0	1333.6	16.78	40.5	1434.5	24.89
31.6	1247.9	14.72	36.1	1335.7	16.88	40.6	1436.9	25.12
31.7	1249.7	14.75	36.2	1337.8	16.99	40.7	1439.3	25.34
31.8	1251.5	14.79	36.3	1339.9	17.10	40.8	1441.8	25.56
31.9	1253.4	14.83	36.4	1342.0	17.29	40.9	1444.2	25.79
32.0	1255.2	14.87	36.5	1344.1	17.47	41.0	1446.7	26.01

^a Suggested charges based on average labour, overhead and fuel costs for commercial natural gas dryers, effective September 1, 1988.

Source: Ontario Grain and Feed Dealers' Association.

Appendix Table 3.--Soybean Conversion Table - Wet Kilograms to Dry Tonnes,
Using Natural Gas, 1988

Moisture	Soybeans (Divisor)	Drying Charge ^a	Moisture	Soybeans (Divisor)	Drying Charge ^a	Moisture	Soybeans (Divisor)	Drying Charge ^a
%	kg	\$	%	kg	\$	%	kg	\$
13.0	988.5							
13.1	989.6		17.1	1042.6	8.72	21.1	1095.4	16.22
13.2	990.8		17.2	1043.8	8.91	21.2	1096.8	16.40
13.3	991.9		17.3	1045.1	9.10	21.3	1098.2	16.57
13.4	993.1		17.4	1046.4	9.27	21.4	1099.6	16.73
13.5	994.2		17.5	1047.6	9.43	21.5	1101.0	16.88
13.6	995.4		17.6	1048.9	9.60	21.6	1102.4	17.03
13.7	996.5		17.7	1050.2	9.76	21.7	1103.8	17.19
13.8	997.7		17.8	1051.5	9.92	21.8	1105.2	17.34
13.9	998.8		17.9	1052.7	10.13	21.9	1106.7	17.54
14.0	1000.0		18.0	1054.0	10.33	22.0	1108.1	17.75
14.1	1006.2	2.90	18.1	1055.3	10.54	22.1	1109.5	17.95
14.2	1007.3	3.10	18.2	1056.6	10.74	22.2	1110.9	18.16
14.3	1008.5	3.30	18.3	1057.9	10.95	22.3	1112.4	18.36
14.4	1009.7	3.50	18.4	1059.2	11.12	22.4	1113.8	18.55
14.5	1010.9	3.70	18.5	1060.5	11.29	22.5	1115.2	18.73
14.6	1012.1	3.90	18.6	1061.8	11.47	22.6	1116.7	18.92
14.7	1013.2	4.10	18.7	1063.1	11.64	22.7	1118.1	19.10
14.8	1014.4	4.30	18.8	1064.4	11.82	22.8	1119.6	19.28
14.9	1015.6	4.50	18.9	1065.7	12.02	22.9	1121.0	19.51
15.0	1016.8	4.70	19.0	1067.0	12.22	23.0	1122.5	19.73
15.1	1018.0	4.90	19.1	1068.4	12.43	23.1	1123.9	19.96
15.2	1019.2	5.10	19.2	1069.7	12.63	23.2	1125.4	20.18
15.3	1020.4	5.30	19.3	1071.0	12.84	23.3	1126.9	20.41
15.4	1021.6	5.48	19.4	1072.3	13.02	23.4	1128.3	20.57
15.5	1022.8	5.79	19.5	1073.7	13.21	23.5	1129.8	20.74
15.6	1024.1	5.97	19.6	1075.0	13.39	23.6	1131.3	20.90
15.7	1025.3	6.16	19.7	1076.3	13.58	23.7	1132.8	21.06
15.8	1026.5	6.34	19.8	1077.7	13.76	23.8	1134.3	21.23
15.9	1027.7	6.51	19.9	1079.0	13.94	23.9	1135.7	21.41
16.0	1028.9	6.67	20.0	1080.4	14.13	24.0	1137.2	21.60
16.1	1030.2	6.83	20.1	1081.7	14.31	24.1	1138.7	21.78
16.2	1031.4	7.00	20.2	1083.1	14.50	24.2	1140.2	21.96
16.3	1032.6	7.16	20.3	1084.4	14.68	24.3	1141.7	22.15
16.4	1033.9	7.36	20.4	1085.8	14.88	24.4	1143.3	22.35
16.5	1035.1	7.55	20.5	1087.2	15.09	24.5	1144.8	22.56
16.6	1036.3	7.74	20.6	1088.5	15.29	24.6	1146.3	22.76
16.7	1037.6	7.94	20.7	1089.9	15.50	24.7	1147.8	22.97
16.8	1038.8	8.13	20.8	1091.3	15.70	24.8	1149.3	23.17
16.9	1040.1	8.33	20.9	1092.7	15.88	24.9	1150.9	23.36
17.0	1041.3	8.52	21.0	1094.1	16.05	25.0	1152.4	23.54

This chart shows the number of kilograms of soybeans, at varying degrees of moisture, that are required to yield a dry tonne at 14 percent moisture. At moisture levels over 14% an allowance of 1/2 of 1% is included as invisible loss. Charges for drying are assessed per tonne of dry soybeans.

^a Drying charges are negotiated between the Ontario Grain and Feed Dealers Association and the Soybean Growers' Marketing Board. Rates were effective September 1, 1988.

Source: Ontario Grain and Feed Dealers Association.

Appendix Table 4.--Handling Allowance, Soybeans, 1988 Crop Year

Selling Price	Handling Charge
\$/tonne	\$/tonne
000.00 - 150.00	7.70
150.01 - 200.00	8.80
200.01 - 250.00	9.90
250.01 - 300.00	11.00
300.01 - 350.00	12.50
350.01 - 400.00	12.90
400.01 - 450.00	13.30
450.01 - 500.00	13.70

Note: For each \$50.00 per tonne selling price above \$350.00 there is an additional 40 cents per tonne handling charge.

Rates effective September 1, 1988.

Source: Ontario Grain and Feed Dealers Association.

Appendix Table 5.--Grain Handling and Storage Tariff, 1988 Crop Year

Commodity	Charge
Storage Schedule	cents/day/tonne
Corn	4.3
Soybeans	3.9
Wheat	3.9
Rye	4.1
Barley	4.8
Oats	6.4
Elevation Charge	\$/tonne
In-Elevation Charge	1.25
Custom Handling Charge	10.00
Grade Discounts	
Corn	
Grades #1 & #2	Nil
Grade #3	.80
Grade #4	3.90
Grade #5	7.90
Soybeans	
Grades #1 & #2	Nil
Grade #3	2.00
Grade #4	5.00
Grade #5	10.00

In the case of wheat and soybeans, certain charges are established by law, pursuant to the Farm Products Marketing Act. In the case of all other charges, the charges indicated are prepared as a guide only and are prepared by staff of the Association using standard formulas to factual data respecting the input costs of those activities.

Rules to Apply

1. Charges for drying, prepaid trucking, in-elevation charge and accrued storage are due and payable as of the 31st day of December of each year.
2. Storage charges to be computed on dry weight basis.

Source: Ontario Grain and Feed Dealers Association, effective August 1, 1988.